A Proactive Approach to Cerulean Warbler Conservation

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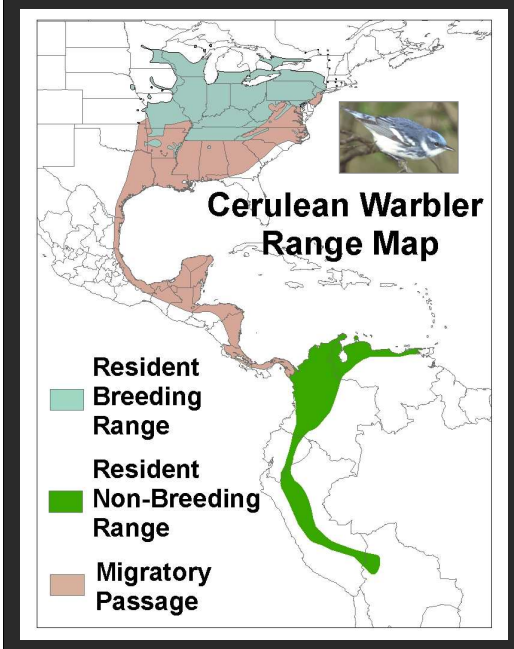
Photo © Robert Royse, courtesy American Bird Conservancy



Breeding grounds

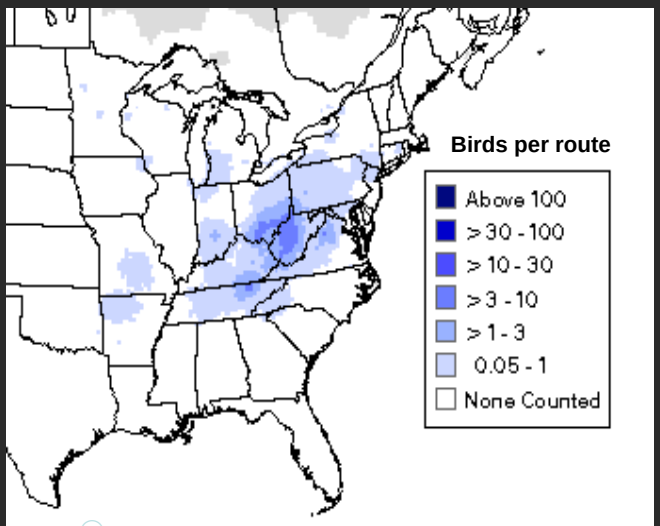
- Mature deciduous forest with large trees, structurally diverse canopy
- Predominantly forested landscapes
- Uplands and bottomlands

Wintering grounds

- Broad-leaved evergreen forests and borders, shaded plantations
- Generally in Andes, at elevations of 500-2000 m

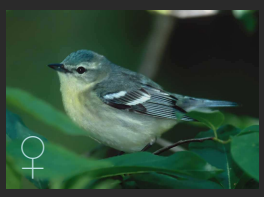
Conventional wisdom is that it is a trans-Gulf migrant, primarily, possibly with some identified stopover locations in Honduras, Belize, and Guatemala.

Cerulean Warbler Breeding Range



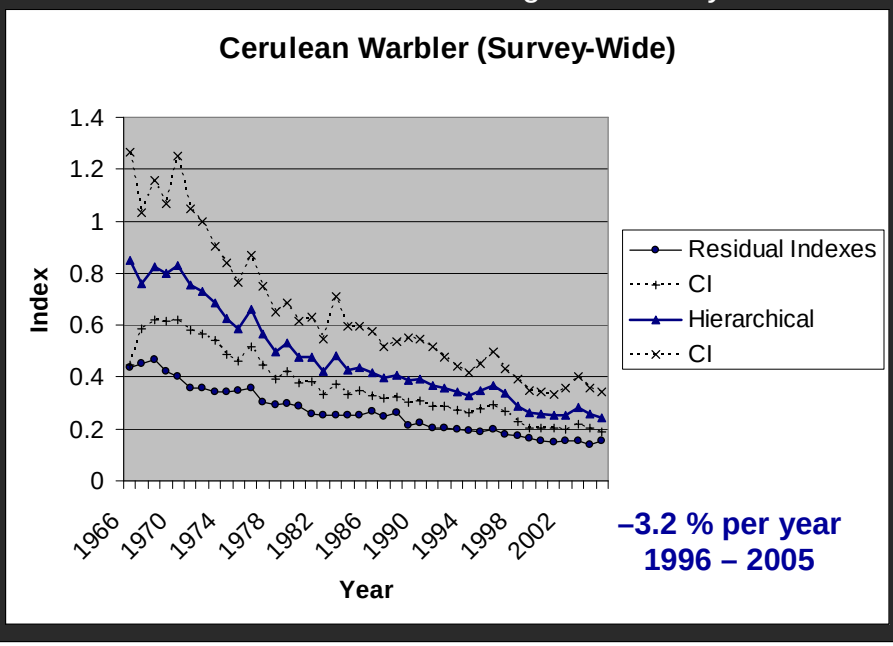
Source: North American Breeding Bird Survey
Mean counts, 1994-2003

Highest mean abundance in the Ohio Hills & Cumberland Plateau physiographic areas



Cerulean Warbler Population Trends

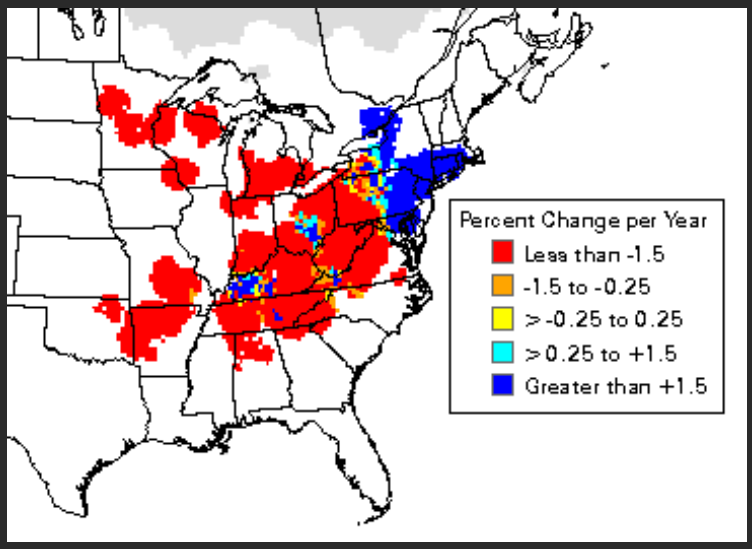
North American Breeding Bird Survey



BBS hierarchical analysis, courtesy John Sauer

Cerulean Warbler Population Trends

North American Breeding Bird Survey
1966-2003

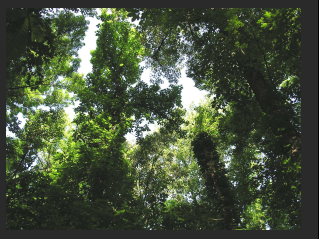


significant declines in the core of the range

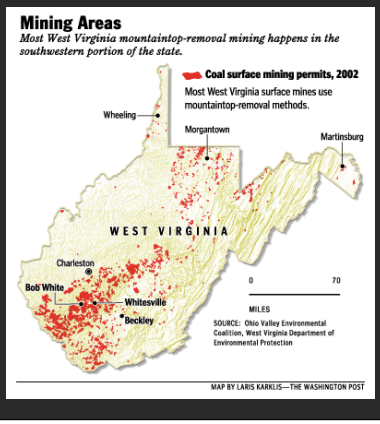
Threats and Limiting Factors

Breeding season

- Habitat loss or degradation
  - Conversion to other land uses
    - Surface mining, second home construction, urbanization
  - Fragmentation
  - Loss of forest structural diversity



Limit amount of available breeding habitat or result in reduced reproductive success



Coal deposits mined by mountaintop removal /valley-fill lie within core of the Cerulean Warbler breeding range

Reference upcoming talk by Petra Wood

Threats and Limiting Factors

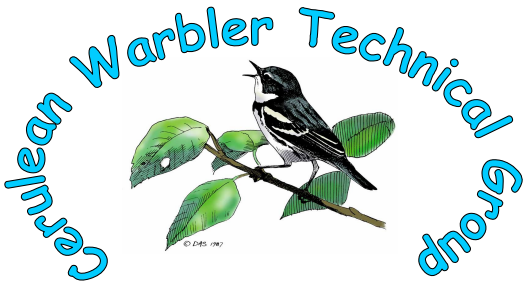
Non-breeding season

- Habitat loss or degradation on wintering grounds and along migration routes
  - 40-60% of winter habitat already converted to pasture, coffee, coca, other crops
- Hazards during migration
  - Towers, power lines, windows, etc.
  - Hurricanes

Hazards during migration not unique to CERW, but loom for any migratory species

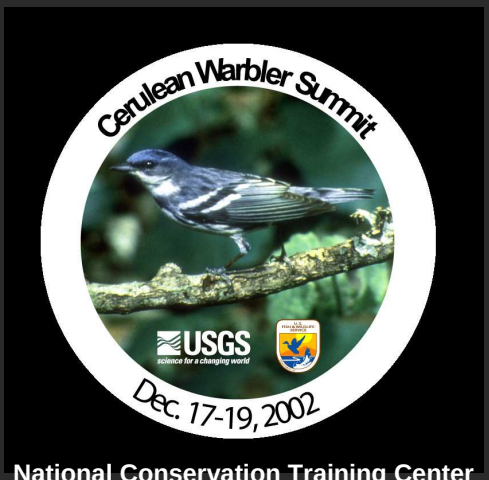
Cerulean Warbler Status

- Under consideration for listing as Threatened, U.S. Endangered Species Act
- Bird of Conservation Concern, USFWS
- Species of Special Concern, Canada
- State threatened or endangered: 5 states
- Species of concern: 11 states, Ontario
- Partners in Flight Watch List species
- Vulnerable, IUCN



- **Formed in June 2001**
- **Coalition of biologists, managers, and conservationists from federal & state agencies, NGOs, academia, and industry**
- **Inspired to develop a coordinated, comprehensive, multi-stakeholder, biologically sound approach to Cerulean Warbler conservation**

Cerulean Warbler Summit, December 2002

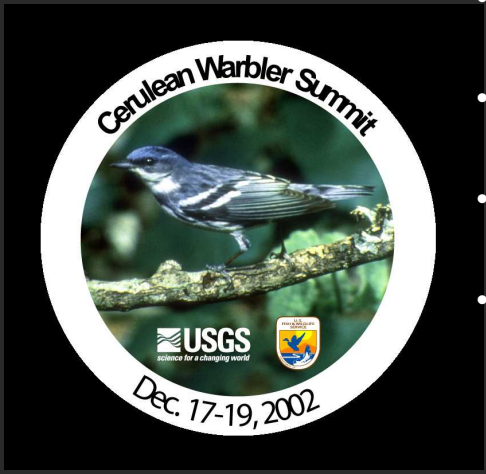


National Conservation Training Center
Shepherdstown, WV

- **Identified & prioritized information and conservation needs**
- **Developed action plans to address them**
- **65 participants**
  - **State & federal government, academia, NGOs, forest industry**
  - **US, Canada, Colombia, Ecuador, Venezuela**

Broadened scope beyond breeding grounds to consider issues relevant to CERW conservation on the wintering grounds

Cerulean Warbler Summit, December 2002



- **Breeding Season Research**
- **Breeding Season Conservation**
- **Breeding Season Monitoring and Surveys**
- **Non-breeding Season Research, Conservation, & Monitoring**

Broadened scope beyond breeding grounds to consider issues relevant to CERW conservation on the wintering grounds

Breeding Season Research Committee

Coordinated research conducted across entire range of the species to address highest priorities

- **Population response of CERW to silvicultural treatments/timber harvest techniques**
- **Effects of forest structure and composition on population demography**
- **Survival, dispersal, fecundity, and recruitment patterns**
- **Difference in areas where CERW are increasing vs. decreasing**
- **Multi-scale effects of land use on population demography**
- **Landscape-scale mechanisms that affect population demography**
- **Variation of habitat use/selection across the breeding range**
- **Habitat needs during migration**

Broadened scope beyond breeding grounds to consider issues relevant to CERW conservation on the wintering grounds

Breeding Season Research Committee

Study design incorporating 7 of the 8 highest priority research needs

- Replicated study with ≥ 3 treatment levels
  - Multiple study areas within CERW range
    - Within study areas, replicated study sites
      - Across study areas, common set of data collected
  - Possible Treatments Levels:
    - Control
    - Uneven-aged management, level I
    - Uneven-aged management, level II
    - Even-aged management
  - Research Phases
    - Pre-treatment
    - Treatment occurs
    - Post-treatment
- Study plots will be imbedded within a larger treatment block
- Consider adaptive management framework

Broadened scope beyond breeding grounds to consider issues relevant to CERW conservation on the wintering grounds

El Grupo Cerúleo, Dec 2002

Financial support from:

- **NFWF challenge grants, matched by contributions from participating institutions and forest industry**
- **USDA Forest Service**
- **The Nature Conservancy**

Since 2002:

CWTG members regularly communicate & occasionally meet to plan & coordinate new activities, develop proposals for funding

Conservation Actions
Completed or Ongoing

Breeding Season

- Research on CERW ecology & demography
- Collaborative research on CERW response to forest management
- Surveys on private lands in core breeding range
- Models of CERW distribution & abundance
- Preliminary forest management guidelines
- Meetings with forest and coal industries to discuss approaches/prescriptions for CERW conservation

Conservation Actions
Completed or Ongoing

Non-breeding Season

- Compile & map documented observations
- Surveys on wintering grounds and at migration stopover sites in Central America
- Models of winter distribution (Quito 2005)
- Research on winter ecology and demography
- New reserves established in Colombia to protect CERW winter and stopover habitat

In 2005, American Bird Conservancy & Fundacion ProAves (Colombia), with funding from Neotropical Migratory Bird Conservation Act & private donors, teamed to protect the first South American reserve for a North American songbird, 500 acres of subtropical forest in the Rio Chucurí basin of Santander, Colombia. And, in 2006, along with Conservation International protected a tract used by Ceruleans during migration stopovers.

The Interpreters of Cerulean

Photo by Roger Eriksson r.eriksson@worldnet.att.net 248-627-2516

If you are wondering whether to sit through the entire symposium, I encourage you to do so. The presenters comprise an extremely dedicated group of people working on the species, and the content spans multiple disciplines to bring together one of the best available portraits of the ecology and behavior of a long-distance nearctic-neotropical migrant. We thought we were coming together to take care of this bird, but in many ways the species decline graph I presented at the beginning represents a decline in conservation optimism that could plague us as conservation. Really, it is the species that has turned us around and given us hope. I think you will find that the talks that follow will exemplify that concentrated effort and dedication by a group of some of the best people I have come into contact with.

Research and surveys conducted in recent years have added considerably to our knowledge of the species' ecology, demography, genetics, behavior, habitat use, and spatial distribution on both the breeding and non-breeding grounds. The talks in this afternoon's symposium describe the current state of our knowledge, highlight ongoing research and conservation efforts, and identify priorities for future actions on the species' behalf.